

a world of

REGULATORS, VALVES & SYSTEMS



Pressure controls for your industry

TESCOM™


EMERSON™
Process Management

Contents

High Pressure – Pressure Reducing Regulators	1	Alternative Fuels Regulators	8
Low Pressure – Pressure Reducing Regulators	2	Pharmpure™ Regulators for Life Sciences	8-9
Low Pressure – Vacuum & Absolute Regulators	2	Valves	9
High Flow – Pressure Reducing Regulators	3	Changeover Regulators	10
Back Pressure Regulators	4	Integrated Custom Systems	10
Hydraulic Regulators – Reducing & Back Pressure	5-6	Electronic Pressure Controls	11-12
Corrosion Resistant Regulators	6-7	Accessories	12
Custom – Reducing & Back Pressure	7-8	About TESCO	13

What to consider when choosing a regulator

Major considerations in the selection of a regulator are listed here. Within the requirements of your specific application, use this catalog to find the regulator that matches your parameters. Our standard products are only a starting point. We can modify or create a control that will solve your toughest application problem. Detailed information is available through your local TESCO representative.

HANDKNOB

Large handknob provides easy, low torque pressure setting. Wrench or screwdriver adjust options on some models.

VENTING

Venting feature enables relieving of the outlet pressure when the handknob is turned in the “decrease” direction.

Captured venting configuration includes extra port to pipe away expelled fluids from a regulator’s vent valve.

Non-venting feature available for hydraulic or other applications where venting is not desirable.

FLOW CAPACITY – C_v

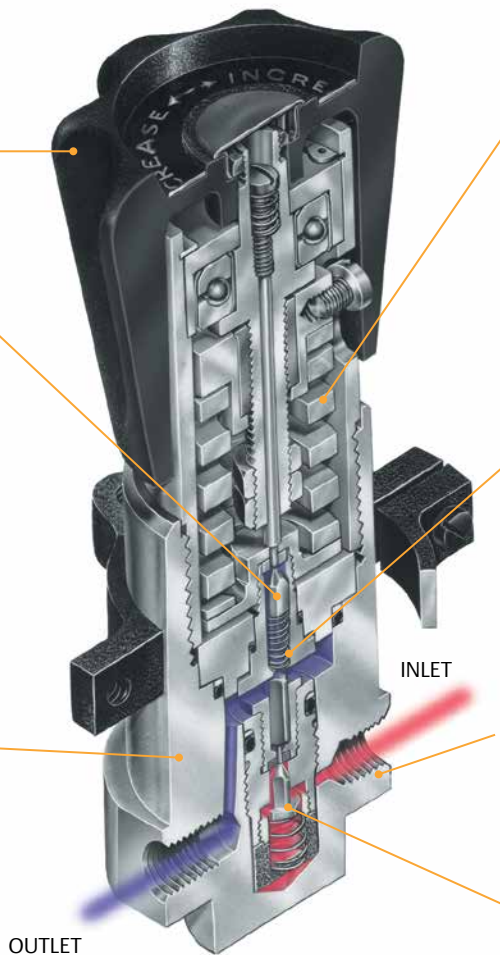
C_v is a measure of regulator flow capacity. The flow coefficient refers to the flow of one GPM of water at one psi drop across the main valve. The coefficient for gaseous service must be determined from the ratio of inlet to outlet pressure.

BODY MATERIALS

Brass, aluminum or stainless steel (Type 300, 316) and others.

OUTLET PRESSURE RANGES AVAILABLE

Starting at 50 mm Hg absolute to 15 psig / 1 bar, ranging up to 300-20,000 psig / 21-1379 bar.



LOADING – Spring, Dome, Air Actuated, Electronic

Loading refers to the method used to balance the outlet pressure. **Spring loading** is used with direct acting regulators with handknob adjustment. **Dome loading** is most often used in high flow, quick response type applications. **Air Actuator** provides outlet pressures up to 15,000 psig / 1035 bar with a signal of only 100 psig / 6.9 bar. A TESCO **electronic** controller is another loading option.

PANEL MOUNTING

Standard on some models. Extra option on others.

SENSING – Diaphragm or Piston

Diaphragms provide sensitive and accurate regulation for outlet pressure ranges up to 500 psig / 35 bar.

Piston sensors provide high strength integrity for high outlet pressures up to 20,000 psig / 1379 bar.

INLET PRESSURE RANGES

Sub-atmospheric to 20,000 psig / 1379 bar.

PORTS

Sizes: 1/8" to 1"

Types: NPTF (all models), SAE, Aminco, MS33649, Slimline, BSP, welded fittings.

MAIN VALVES – Balanced and Unbalanced

Balanced design is used to reduce the effect of decaying inlet pressure and in certain models provides increased flow capacity. Unbalanced valve offers simplicity and economy.

ADDITIONAL CONSIDERATIONS

- Gauge ports, 1/8" or 1/4" NPTF
- Temperature range
- Corrosion resistance
- Welded connections
- Soft goods-Buna-N, PCTFE, Teflon®, Viton-A®, Vespel® and EPR.

Elgiloy® is a registered trademark of Elgiloy Corp.
Gylon® is a registered trademark of Garlock, Inc.
LabVIEW® is a registered trademark of National Instruments.
Hastelloy® is a registered trademark of Haynes International, Inc.
Teflon®, Viton-A® and Vespel® are registered trademarks of E.I. du Pont de Nemours.
Windows® and Visual Basic® are registered trademarks of Microsoft Corporation.

High Pressure - Pressure Reducing Regulators



BB-1 Miniature



44-1100
High Pressure



26-1000 Versatile



26-2000 Versatile

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
BB-1 Series: Miniature <ul style="list-style-type: none"> Lightweight, compact design Piston sensed for high cycle life Designed for liquid or gas media Non-venting Field adjustable or pre-set ranges 	6000 psig 414 bar	0-80, 0-140, 0-220, 0-700, 0-1200, 0-1800 psig 0-5.5, 0-9.7, 0-15.2, 0-48.3, 0-83, 0-124 bar	$C_v = .06$	Aluminum, 316 SST
BB-5 Series: Miniature, Two Stage <ul style="list-style-type: none"> Lightweight, compact design Interstage relief port Piston sensed for high cycle life Non-venting 	6000 psig 414 bar	0-80, 0-140, 0-220, 0-700, 0-1200 psig 0-5.5, 0-9.7, 0-15.2, 0-48.3, 0-83 bar	$C_v = .06$	Aluminum, 316 SST
44-1100 Series: High Pressure <ul style="list-style-type: none"> Excellent sensitivity Piston sensed for high cycle life Inlet & outlet gauge ports standard 40 micron (nominal) inlet filter Removable valve module for easy field repair Venting standard 	6000, 10,000 psig 414, 690 bar	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414 bar	$C_v = .02$ $C_v = .06$ $C_v = .12$	Brass, 300 SST, 316 SST
44-1800 Series: Economy <ul style="list-style-type: none"> General purpose use Compact design Adjustable stop limits maximum outlet pressure Inlet & outlet gauge ports standard Non-venting standard 	6000 psig 414 bar	15-2500 psig 1-172.4	$C_v = .06$ $C_v = .24$	Brass, 300 SST, 316 SST
26-1000 Series: Versatile <ul style="list-style-type: none"> Outlet pressure ranges are field changeable Numerous porting options Optional inlet pressures to 20,000 psig / 1379 bar Large handknob provides fast low-torque pressure settings Venting standard 	6000 & 10,000 psig 690, 414 bar	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 14-690 bar	$C_v = .02$ $C_v = .06$ $C_v = .12$ $C_v = .3$	Brass, 300 SST, 316 SST
26-2000 Series: Versatile <ul style="list-style-type: none"> Designed for both hydraulic and pneumatic service Segregated and captured venting Designed for heavy duty shock and vibration service Choice of metal to metal or soft seat Optional inlet pressures up to 30,000 psig / 2070 bar & outlet pressures up to 20,000 psig / 1379 bar Compatible with TESCOM Electronic Controllers (p. 11-12) 	6000, 10,000 & 15,000 psig 690, 414, 1035 bar	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275, 3.5-413 14-690 bar	$C_v = .02$ $C_v = .06$ $C_v = .12$ $C_v = .3$	Brass, 316 SST

Low Pressure - Pressure Reducing Regulators



26-1600 Venting

44-5200
Economical/Venting

DK Series

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
26-1500 Series: Non-venting <ul style="list-style-type: none"> Non-venting regulator Compact design Elastomeric diaphragm - highly sensitive Dome loading available For liquid or gas service 	6000, 5000 psig 414, 345 bar	4-50, 4-150, 4-250 psig .28-3.5, .28-10.4, .28-17.2 bar	$C_V = .08$ $C_V = .24$	Brass or 316 SST
26-1600 Series: Venting <ul style="list-style-type: none"> Elastomeric diaphragm - highly sensitive Controls up to 500 psig Dome loading available For liquid or gas service Works with TESCO motorized actuator for remote control 	6000, 5000 psig 414, 345 bar	2-50, 2-150, 3-250, 5-500 psig .14-3.5, .14-10.4, .2-17.2, .35-35 bar	$C_V = .08$ $C_V = .24$	Brass or 316 SST
44-5200 Series: Economical/Venting/Non-Venting <ul style="list-style-type: none"> Replaces 44-2200V Large piston - good sensitivity For liquid or gas service 	3500, 400 psig 241.3, 27.6 bar	0-25, 0-50, 0-100, 0-250, 0-500, 0-600 psig 0-1.7, 0-3.5, 0-6.9, 0-17.2, 0-35, 0-41.4 bar	$C_V = .06$ $C_V = .15$	Brass or 316 SST
DK Series: Segregated and Captured Venting <ul style="list-style-type: none"> Improves control and resolution at medium flows & pressures Remote control capability with TESCO 26-1200 regulator Designed for use with TESCO ER5000 (p. 11) 	1000 psig 69 bar	Airload: 0-600 psig 0-41.4 bar Dome load: 0-700 psig 0-48.3 bar	$C_V = .35$	Brass or 316 SST

Low Pressure - Vacuum & Absolute Regulators

44-4700
Back Pressure

DV Vacuum Control

Product Series/Features (Absolute)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
44-4600 Series: Absolute Pressure <ul style="list-style-type: none"> Controlled Pressure Range: 28" Hg to 15 psig Large diaphragm - excellent sensitivity 	120, 3500 psig 8.2, 241.3 bar	28" Hg Vac to 15 psig / 1 bar	$C_V = .06$ $C_V = .24$	316L SST
DA Series: Absolute Pressure <ul style="list-style-type: none"> Sub-atmospheric to 350 psig Non-venting regulator Elastomeric diaphragm sensor - highly sensitive Economical Low knob torque, quick response Dome loaded option 	4500, 500 psig 310.3, 35 bar	Vac. to 15 psig / 1 bar Vac. to 50 psig / 3.5 bar Vac. to 100 psig / 6.9 bar Vac. to 350 psig / 10.4 bar	$C_V = .06$	Brass or Aluminum
Product Series/Features (Vacuum)	Controlled Pressure Ranges		Flow Capacity	Body Material
44-4700 Series: Sub-atmospheric, Back Pressure <ul style="list-style-type: none"> High Flow capacity Negative spring bias Controls sub-atmospheric to positive pressures 	28" Hg vac - 15 psig / 1 bar 28" Hg vac - 50 psig / 3.5 bar 28" Hg vac - 100 psig / 6.9 bar 28" Hg vac - 150 psig / 10.4 bar		$C_V = .04$ $C_V = .30$	316L SST
DV Series: Vacuum control <ul style="list-style-type: none"> Elastomeric diaphragm - highly sensitive Highly accurate: $\pm 1\%$ Dome loaded option Choice of constant or no bleed 	0 psig - 28" Hg (non-bleed) 0 psig - 25" Hg (constant bleed)		$C_V = .25$	Brass or Aluminum

High Flow - Pressure Reducing Regulators



26-1200 $C_v=12$



44-1300 Versatile



44-4000 Tracking



CP32
Pilot Operated



DH Low Pressure

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
26-1100 Series: Compact/High Flow <ul style="list-style-type: none"> Diaphragm sensed - highly sensitive Modular construction - easy service External sensing available for improved accuracy Balanced main valve increases seat life 	6000, 10,000 psig 414, 690 bar	55-6000, 55-10,000 psig 3.8-414, 3.8-690 bar	$C_v = .46$ $C_v = 1.3$	Brass, 300 SST or 316 SST
26-1200 Series: High Flow <ul style="list-style-type: none"> Similar to 26-1100 above with higher flow capacity 	6000 psig 414 bar	100-6000 psig 6.9-414 bar	$C_v = 3.3$ $C_v = 6.0$ $C_v = 12.0$	300 SST or 316 SST
44-1300 Series: Versatile <ul style="list-style-type: none"> Excellent sensitivity Venting Extremely reliable Spring, dome or air ratio loading 	3750, 4500 5000, 6000 psig 259, 310, 345, 414 bar	10-300, 15-600, 20-1000, 50-1500, 50-3000 psig .69-20.1, 1-41.4, 1.4-69, 1.4-103, 1.4-207 bar	$C_v = .8$ $C_v = 2.0$	Brass, 300 SST or 316 SST
44-1500 Series: High Flow <ul style="list-style-type: none"> Segregated and captured venting 6000 psig inlet Spring, dome or air ratio loading available 	6000 psig 414 bar	10-200, 10-400, 10-600 psig .69-14, .69-27.6, .69-41.4 bar	$C_v = .3$	Brass or 316 SST
44-4000 Series: Tracking <ul style="list-style-type: none"> Segregated and captured venting Adjustable bias pressures Air actuated models are compatible with TESCOM electronic pressure controllers (p. 11-12) 	6000 psig 414 bar	50-1, 500 psig 3.5-103.4 bar Plus Bias Pressures Pressures to 350 psig 24.1 bar	$C_v = .7$ $C_v = 2.0$	Brass, 300 SST or 316 SST
44-4200 Series: Economical <ul style="list-style-type: none"> Dome loaded Piston sensed - highly reliable Compatible with TESCOM electronic pressure controllers (p. 11-12) 	6000 psig 414 bar	0-5000 psig 0-345 bar	$C_v = .8$ $C_v = 2.0$	Brass, 300 SST or 316 SST
CP32 Series: Pilot Operated <ul style="list-style-type: none"> High flow, low droop Gauge port option Excellent sensitivity and repeatability 	3000 psig 207 bar	500 psig 35 bar	$C_v = 1.0$	Brass or 316 SST
DH Series: Low Pressure <ul style="list-style-type: none"> Diaphragm sensed - highly sensitive Excellent repeatability Very high flows at low pressures 	500 psig 35 bar	0-20, 0-50, 0-100, 0-150, 2-250 psig 0-1.4, 0-3.5, 0-6.9, 0-10.4, .14-17.2 bar	$C_v = 5.0$	Brass or 316 SST
DG Series: Low Pressure <ul style="list-style-type: none"> Diaphragm sensed High flow - up to 1400 scfm NPTF & welded connections 	300 psig 21 bar	0-20, 0-50, 0-100 0-250 psig 0-1.4, 0-3.5, 0-6.9, 0-17.2 bar	$C_v = 10$	316 SST

Back Pressure Regulators



26-1700
Versatile



26-2300
High Accuracy



26-2500
High Flow



44-1700
Economical



BB-3 Miniature

Product Series/Features (Back Pressure)	Controlled Pressure Ranges	Flow Capacity	Body Material
26-1700 Series: Versatile <ul style="list-style-type: none"> Extremely sensitive Ideal for both gas & liquid service High temperature versions available up to 400°F / 204°C Accuracy : ± 1% of relief pressure range 	5-500, 5-800, 10-1500 15-2500, 25-4000, 50-6000, 200-10,000, 200-15,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4, 1.7-275.8, 3.5-414, 14-690, 14-1035 bar	C _V = .02 C _V = .10 C _V = .14 C _V = .60	316 SST
26-2300 Series: High Accuracy <ul style="list-style-type: none"> Precise pressure control Diaphragm sensed - highly sensitive Crack to reseal: 2% of set pressure Bubble-tight shutoff at all reseating pressures 	5-50, 10-150, 10-250 psig .35-3.5, .69-10.4, .69-17.2 bar	C _V = .06 C _V = .60 C _V = 1.0	300 or 316 SST
26-2500 Series: High Flow <ul style="list-style-type: none"> Large Gylon® diaphragm for excellent sensitivity Bubble-tight shutoff at all reseating pressures 1/2", 3/4" and 1" inlet and outlet port sizes 	0-20, 0-50, 0-125, 0-200 psig 0-1.4, 0-3.5, 0-8.6, 0-14 bar	C _V = 5.0	Brass or 316 SST
26-2900 Series: Tracking <ul style="list-style-type: none"> High Flow Negative spring bias Designed for BIBS application Diaphragm sensed - highly sensitive 	1000 psig 69 bar	C _V = 2.0	Brass or 300 SST
44-1700 Series: Economical <ul style="list-style-type: none"> Piston sensed - highly reliable Compact design Close pressure differential between crack and reseal Adjustable pressure stop standard 	40-150, 100-700 or 100-800 psig 2.8-10.4, 6.9-48.3, 6.9-55.2 bar	C _V = .10	Brass or 316 SST
BB-3 Series: Miniature <ul style="list-style-type: none"> Economical & extremely compact Durable piston sensor design High temperature (to 400°F / 204.4°C) version High flow capacity 	0-80, 0-140, 0-220, 0-250*, 0-3000* psig 0-5.5, 0-9.7, 0-15.2, 0-17.2*, 0-207* bar * dome load only	C _V = .20 C _V = .50	Aluminum or 316 SST
44-2300 Series: Economical <ul style="list-style-type: none"> Hand adjustable Diaphragm-sensed Dome loaded Four control pressure ranges 	0-25, 0-50, 0-100, 0-250 psig 0-1.7, 0-3.5, 0-6.9, 0-17.2 bar	C _V = .08	Brass or 316L SST
44-4700 Series: Sub-atmospheric <ul style="list-style-type: none"> Metal to metal diaphragm assures minimum inboard/outboard leakage Controls sub-atmospheric to positive pressures High flow capacity Negative spring bias 	28" Hg VAC - 15 psig/1 bar 28" Hg VAC - 50 psig/3.5 bar 28" Hg VAC - 100 psig/6.9 bar 28" Hg VAC - 150 psig/10.4 bar	C _V = .04 C _V = .30	316L SST

Hydraulic Regulators - Pressure Reducing & Back Pressure



50-2000
High Pressure



50-4000
High Pressure



54-2000
High Pressure



54-2200
High Pressure



54-2800 High Flow/
High Pressure

Product Series /Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
50-2000 Series: High Pressure /Reducing <ul style="list-style-type: none"> Stem & seal designed to extend service life in crucial high pressure water-based hydraulic applications Integral, segregated and captured venting Tapered poppet design for better pressure control 	10,000, 15,000 psig 690, 1035 bar	5-500, 5-800, 10-1500, 15-2500 25-4000, 50-6000, 200-10,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 14-690 bar	$C_v = .02$ $C_v = .06$ $C_v = .12$ $C_v = .30$	316 SST
50-2200 Series: High Pressure /Reducing <ul style="list-style-type: none"> Designed with special stem and seal to meet the challenges of water-based fluid applications Spring-loaded, wrench adjust for outlet pressures up to 20,000 psig / 1379 bar Integral, segregated and captured venting 	15,000, 20,000 psig 1035, 1379 bar	300-15,000, 300-20,000 psig 20-1035, 20-1379 bar	$C_v = .06$ $C_v = .12$	316 SST or Nitronic 60
50-4000 Series, 50-4100 Series: High Pressure / Reducing <ul style="list-style-type: none"> Hydraulic Power Units, Wellhead Control Panels Unique integrated bypass valve simplifies the high pressure design system = fewer components and leak paths Decreases downtime associated with filling long umbilicals 	10,000, 15,000 psig 690, 1034 bar	5500-15,000, 3000-10,000, 3000-6000, 3000-4000, 1100-6000, 1100-4000, 1100-2500 psig 380-1034, 207-690, 207-414, 207-276, 76-414, 76-276, 76-172 bar	$C_v = 0.12$ (Control Regulator) $C_v = 1.9$ (Integrated Bypass)	315 SST
54-2000 Series: High Pressure /Reducing <ul style="list-style-type: none"> Rugged design, high pressure service Hardened metal to metal seats for heavy duty service System pressures to 20,000 psig / 1379 bar available Integral, segregated and captured venting 	10,000 psig 690 bar	5-500, 5-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414, 14-690 bar	$C_v = .06$	300 or 316 SST
54-2200 Series: High Pressure <ul style="list-style-type: none"> High flow capacity: $C_v = 2.0$ Hardened metal to metal seats for heavy duty service Integral, segregated and captured venting 	8000 psig 10,000 psig 552, 690 bar	5-500, 5-800, 10-1500, 15-2500, 25-400, 50-6000, 200-10,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414, 14-690 bar	$C_v = 2.0$	300 SST
54-2800 Series: High Flow/Reducing <ul style="list-style-type: none"> Flow capacity: $C_v = 8.0$ Inlet & outlet pressures up to 5000 psig / 345 bar Choice of air ratio or dome loading Hardened metal to metal seats for heavy duty service Integral, segregated and captured venting 	5000 psig 345 bar	50-1500, 200-5000 psig 3.5-103.4, 14-345 bar	$C_v = 8.0$	300 SST

Hydraulic Regulators - Pressure Reducing & Back Pressure



56 Series
Flow Control



54-2700 High Flow/
Back Pressure



54-2900 Series
High Flow/Back Pressure

Product Series /Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Range	Maximum Flow Rates	Body Material
56 Series: Flow Control <ul style="list-style-type: none"> Offshore Chemical Injection Accurate, consistent flow control reduces risk of over and under injection Regulator longevity in offshore applications 	15,000 psig 1034 bar	200-15,000 psig 13.8-1034 bar	1.20, 0.20, 0.16, 2.28 gpm 4.542, 0.7571 0.6057, 8.6311 l/m	316 SST or Nitronic 60
Product Series/Features (Back Pressure)	Controlled Pressure Ranges		Flow Capacity	Body Material
54-2100 Series: Back Pressure /Relief Valve <ul style="list-style-type: none"> Accuracy: $\pm 1\%$ of pressure range Hardened metal to metal seats for heavy duty service Eight pressure ranges up to 15,000 psig / 1035 bar 	0-500, 0-800, 10-1500, 15-2500, 25-4000, 50-6000, 200-10,000, 300-15,000 psig .35-35, .35-55.2, .69-103.4, 1-172.4 1.7-275.8, 3.5-414, 14-690, 20.7-1035 bar		$C_V = .08$	300 or 316 SST
54-2300 Series: High Pressure /High Flow - BPR <ul style="list-style-type: none"> Control pressures to 10,000 psig / 690 bar Flow capacity: $C_V = 1.6$ Excellent crack to reseal ratio Hardened metal to metal seats for heavy duty service 	750, 1500, 3500 5000, 10,000 psig 51.7, 103.4, 241.3, 345, 690 bar		$C_V = 1.6$	300 SST
54-2700 Series: High Flow /Back Pressure <ul style="list-style-type: none"> Flow capacity: $C_V = 5.0$ Choice of dome loaded, spring loaded, or air ratio device 	5-500, 50-5500 psig .35-35, .35-379 bar		$C_V = 2.0$ $C_V = 5.0$	300 or 316 SST
54-2900 Series: High Flow /Back Pressure <ul style="list-style-type: none"> Control pressures up to 10,000 psig / 690 bar Bottom ported outlet; hardened metal to metal seats for heavy duty service Dome, spring loaded and air actuated 	500, 1000, 1500, 3000 5000, 10,000 psig 35, 69, 103, 207, 345, 690 bar		$C_V = 5.0$	316 SST

Corrosion Resistant, Specialty Gas & Petrochemical Regulators



04 Miniature/
Lecture Bottle



44-2200 Compact

Product Series /Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
04 Series: Miniature /Lecture Bottle <ul style="list-style-type: none"> Choice of 1/8" or 1/4" in & out ports Minimal internal volume Choice of 316 SST or brass 	3500 psig 241.3 bar	0-30, 0-60, 0-100 psig 0-2, 0-4.1, 0-6.9 bar	$C_V = .06$	Brass or 316L SST
44-2200 Series: Compact /General Purpose <ul style="list-style-type: none"> 1/4" inlet and outlet ports Diaphragm sensed - highly sensitive Various trim options available 	3500, 400 psig 241.3, 27.6 bar	1-25, 1-50, 1-100, 2-250, 2-500 psig .07-1.7, .07-3.5, .07-6.9, .14-17.2, .14-35 bar maximum	$C_V = .02$ $C_V = .06$ $C_V = .15$ $C_V = .24$	Brass, 316L SST, Hastelloy-C® or Monel®
44-2600 Series: General Purpose /Large Diaphragm <ul style="list-style-type: none"> Increased sensitivity, minimal droop Repeatability: $\pm 1/2\%$ of outlet pressure range Accuracy: $\pm 1\%$ of outlet pressure 	3500, 400 psig 241.3, 27.6 bar	1-25, 1-50, 1-100, 1-150 psig .07-1.7, .07-3.5, .07-6.9, .07-10.4 bar	$C_V = .02$ $C_V = .06$ $C_V = .15$ $C_V = .24$	316L SST

Corrosion Resistant, Specialty Gas & Petrochemical Regulators



44-3200 High Flow/
Purge



44-3400 Two Stage



SG1
(with accessories)



44-5800
Electric Heated
Vaporizing

Product Series/Features (Pressure Reducing)	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
44-2800 Series: Positive Seal <ul style="list-style-type: none"> Mechanical link between diaphragm & main valve prevents pressure creep Positionable captured vent bonnet 	3000 psig 207 bar	1-25, 1-50, 1-100, 1-150 psig .07-1.7, .07-3.5, .07-6.9, .07-10.4 bar	$C_V = .16$	316L SST
44-3200 Series: High Flow/Purge <ul style="list-style-type: none"> Ideal purge regulator High pressure inlet version incorporates a balanced main valve to minimize inlet pressure fluctuation 	500, 3000 psig 35, 207 bar	5-25, 5-50, 5-100, 5-150, 5-200 psig .35-1.7, .35-3.5, .35-6.9, .35-10.4, .35-14 bar	$C_V = 1.0$ $C_V = 1.8$	Brass or 316L SST
44-3400 Series: General Purpose/Two Stage <ul style="list-style-type: none"> Decaying inlet characteristic: .04 per 100 psig inlet pressure change Various trim options available 	3500 psig 241.3 bar	2-25, 2-50, 3-100 3-150, 3-250 psig .14-1.7, .14-3.5, .21-6.9, .21-10.4, .21-17.2 bar	$C_V = .05$	Brass or 316L SST
44-5000 Series: Absolute Pressure <ul style="list-style-type: none"> Control pressure range: vacuum to low positive pressures 	120, 400, 3500 psig 8.3, 27.6, 241.3 bar	28" Hg Vac to 15 psig/1bar 28" Hg Vac to 25 psig/1.7 bar 28" Hg Vac to 50 psig/3.5 bar 28" Hg Vac to 100 psig/6.9 bar	$C_V = .06$ $C_V = .15$ $C_V = .24$	316L SST
FR 2000 Series: Facilities Regulator <ul style="list-style-type: none"> Ideal purge regulator for low pressure systems Negative bias spring enhances performance at low pressures Balanced main valve minimizes inlet pressure fluctuations 	500 psig 35 bar	0-15, 0-30, 0-75, 0-150 psig 0-1, 0-2, 0-5.2, 0-10.4 bar	$C_V = 1.8$	316L SST
SG Series: SG1 & SG3 Single-Stage, SG2 Two-Stage <ul style="list-style-type: none"> 316 SST or Neoprene diaphragm - for increased regulator endurance 10 micron filter - longer service life Easy to configure with accessories and order Faster delivery - most ship from stock 	4500 psig 310 bar	15, 25, 50, 125, 250 psig 1, 1.7, 3.4, 8.6, 17.2 bar	$C_V = .06$ $C_V = .20$ $C_V = 1.0$	316L SST & Nickel-plated Brass
44-5800 Series: Vaporizing Regulator <ul style="list-style-type: none"> Available in steam heated & electric heated versions Superior heat transfer technology with tolerance to voltage spikes & high ambient temperatures Optional heating capacity up to 400 watts for faster response to flow variations Electric unit designed for 115VAC/230VAC, 50/60 Hz 4-20 mA analog output capability for remote temperature monitoring & data acquisition Optional LCD temperature display T3 (200°C) rating for ATEX, IECEx & CSA 	6000 psig 414 bar	Up to 500 psig 35 bar	$C_V = .02$	316L SST, Monel® or Hastelloy®
Product Series/Features (Back Pressure)	Controlled Pressure Ranges	Flow Capacity	Body Material	
44-2300 Series: Back Pressure <ul style="list-style-type: none"> Economical, general purpose 	0-25, 0-50, 0-100, 0-250 psig 0-1.7, 0-3.5, 0-6.9, 0-17.2 bar	$C_V = .08$	Brass or 316L SST	

Custom Pressure Reducing & Back Pressure Regulators



Cartridge Regulator
(BB Series)

Cartridge Regulators

- Cartridge style externally threaded regulators are designed to be easily installed in a manifold block
- Obvious benefits include: reduced piping, elimination of connections, reduced space requirement, ease of service
- Can be furnished in a wide variety of pressure reducing or back pressure styles
- Contact factory for application assistance

Custom Pressure Reducing & Back Pressure Regulators



42 MW Welded Diaphragm
Instrument Isolator
(shown with the
SJS Series regulator)



Air Actuator
(26-2000 Series)

Differential / Tracking Regulators

- Designed to provide a controlled pressure which is the sum of a signal (reference) pressure and a bias pressure (bias can be positive or negative)
- Applications include: automatic pressure compensation for mechanical (pump) seals, control of fugitive emissions, reduction of breathing gases in commercial or military diving

SJS Series Regulator

- Maintains accurate differential pressure when incorporated into a double seal system
- Tracks upsets in system pressure and decreases downtime by increasing seal life

42 MW Welded Diaphragm Instrument Isolator

- Isolates and protects the regulator from corrosive process media
- Intended for use with our wide range of tracking regulators
- Assists in the control of pressure in fugitive emission and/or mechanical seals applications

Air Actuators

- Available for a wide range of pressure reducing and back pressure regulators
- Allows regulator to be remote actuated by an air signal from an external air source or by one of TESCOM's electronic controllers
- Control pressures may vary from 20 to 20,000 psig / 1.4 to 1379 bar
- Ratios between actuator pressure and control pressure are available from 3:1 to 150:1
- Compared to conventional spring loading, air actuation offers improved regulator performance

Alternative Fuels Regulators



20-1200
High Pressure
Hydrogen



20-1400
High Flow/
Low Pressure

Product Series /Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
20-1000 Series: Compressed Natural Gas • Balanced main valve minimizes inlet pressure fluctuations • Piston sensed - highly reliable • Water heat jacket standard	3600 psig 248 bar	0-500 psig 0-35 bar	$C_V = .5$	Aluminum
20-1200 Series: High Pressure Hydrogen • Nickel-plated aluminum • Large piston sensor • All regulators tamper-proof	5000 psig 345 bar	0-500 psig 0-35 bar	$C_V = .5$	Aluminum 316 SST
20-1400 Series: High Flow / Low Pressure • Diaphragm sensed - highly sensitive • Dome load spring bias ± 2 psig / 0.14 bar • Captured bonnet design for safety	250 psig 17.2 bar	0-190 psig 0-13 bar	$C_V = 1.6$	Aluminum

Clean Pharmpure™ Regulators for Life Sciences

All Pharmpure™ regulators are compliant with the MJ and SF sections of BPE-2009. Clean Service Certification option is available.



PH-1800 Low Pressure
Very High Flow

Regulator Series /Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body & Finishes
PH-1600: Low Pressure, High Flow • FDA Title 21 & USP Class VI Materials • Flows to 250 SCFM N ₂ • Gas and clean steam versions • Ports from 1/2" - 1 1/2" tube ends, sanitary	300 psig 20.7 bar	1-20, 1-50, 1-100, 2-300 psig .07-1.4, .07-3.5, .07-6.9, .14-20.7 bar	$C_V = 5.0$	Brass or 316L SST 25 R _a available (SST version only)
PH-1800: Low Pressure, Very High Flow • FDA Title 21 & USP Class VI Materials • Flows to 1400 SCFM N ₂ • Gas and clean steam versions • Ports from 3/4" - 1 1/2" tube ends, sanitary	300 psig 20.7 bar	1-20, 1-50, 1-100, 2-150 psig .07-1.4, .07-3.5, .07-6.9, .14-10.4 bar	$C_V = 10$	Brass or 316L SST 25 R _a available (SST version only)

Clean Pharmpure™ Regulators for Life Sciences



PH-2200 - Low Flow



PH-2600 - Low Flow



PH-3200 - Medium Flow

All Pharmpure™ regulators are compliant with the MJ and SF sections of BPE-2009. Clean Service Certification option is available.

Regulator Series /Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body & Finishes
PH-2200: Compact, Low Pressure, Low Flow <ul style="list-style-type: none"> FDA Title 21 & USP Class VI Materials Flows to 5 SCFM for specialty gas & clean air applications Ports from 3/8" - 1/2" tube ends, sanitary .07-3.5, .07-6.9 bar 	150 psig 10.4 bar	1-10, 1-25, 1-50, 1-100 psig .07-.69, .07-1.7	C _v =.06 C _v =.15 C _v =.24	Brass or 316L SST 15 or 32 R _a available (SST version only)
PH-2600: Compact, Low Pressure, Low Flow <ul style="list-style-type: none"> FDA Title 21 & USP Class VI Materials Flows to 10 SCFM for specialty gas & clean air applications Ports from 3/8" - 1/2" tube ends, sanitary .07-3.5, .07-6.9 bar 	150 psig 10.4 bar	1-10, 1-25, 1-50, 1-100 psig .07-.69, .07-1.7	C _v =.06 C _v =.15 C _v =.24	Brass or 316L SST 15 or 32 R _a available (SST version only)
PH-3200: Compact, Low Pressure, Medium Flow <ul style="list-style-type: none"> FDA Title 21 & USP Class VI Materials Gas and clean steam versions Tracking version for agitator seals Gas flows to 50 SCFM N₂ 	500 psig 35 bar	5-25, 5-50, 5-100 psig .35-1.7, .35-3.5, .35-6.9 bar	C _v =1.0 C _v =1.8	Brass or 316L SST 15 or 32 R _a available (SST version only)

Valves



30-1100 Shutoff Valve



VA & VG Air-Operated ON/OFF Valves



VJ Bidirectional Shut-off Valve



VT Series 3-Way Valve

Product Series/Features	Operating Pressure (maximum)	Flow Capacity	Body Material
30 Series: Shutoff Valves <ul style="list-style-type: none"> Globe or angle pattern Built-in metallic stop prevents over-torquing - reduces seat wear 30-1100 Series: available with metering capability (long stem optional) Bidirectional flow (all models) 	10,000 psig 690 bar	30-1100 globe: C _v = .28 30-1100 angle: C _v = .49 30-1300 globe: C _v = 1.57 30-1300 angle: C _v = 2.30 30-1200 globe: C _v = 8.0 30-1200 angle: C _v = 10.0 30-1400 globe: C _v = 20.0	300 SST
VA & VG Series: Air Operated ON/OFF Valves <ul style="list-style-type: none"> Normally open or normally closed Balanced main valve - reduces required actuation pressure (30-60 psig) Compact package Toggle actuator optional Solenoid valve actuation (pneumatic assist) optional 	6000, 10,000 15,000, 20,000 psig 414, 690, 1035, 1380 bar	VA: C _v = .75 VG: C _v = 2.0	Brass or 316 SST
VJ Series: Cartridge Valves <ul style="list-style-type: none"> Bidirectional flow Built-in metallic stop Globe or angle pattern O₂ compatible design 	6000, 10,000 psig 414, 690 bar	angle: C _v = .49 globe: C _v = .28	Brass or 316 SST
VL Series: C_v=10 <ul style="list-style-type: none"> Balanced main valve - reduces required actuation pressure Normally closed In-line flow configuration 	6000 psig 414 bar	C _v =10	316 SST
VT Series: 3-Way Valve <ul style="list-style-type: none"> High cycle life in compact design 3 way, 2 position Balanced main valve Optional solenoid valve Universal operation Class VI shut-off 	3500 psig 6000 psig 10,000 psig 241.3, 414, 1035 bar	C _v =.75	Brass or 316 SST

Changeover Regulators



ACS012 Automatic Changeover



CS2200 Changeover System



NA-4 Changeover System



Auto Cascade System

Product Series/Features	Inlet Pressure (maximum)	Outlet Pressure Ranges	Flow Capacity	Body Material
ACS012 Series: Automatic Changeover <ul style="list-style-type: none"> Eliminates downtime caused by depleted gas supplies Incorporates 44-2200 regulators 	400, 3500 psig 27.6, 241.3 bar	100, 150, 200, 250 psig 6.9, 10.4, 14, 17.2 bar	$C_V = .06$	Brass or 316L SST
ACS3200 Series: High Flow Changeover <ul style="list-style-type: none"> High flow capacity: 50 scfm Based on TESCO's field-proven 44-3200 Series Regulator Eliminates downtime caused by depleted gas supplies 	3000 psig 207 bar	160-200 psig 11-14 bar	$C_V = 1.2$	Brass or 316L SST
CR441800 Series: High Pressure Changeover <ul style="list-style-type: none"> Inlet pressures up to 6000 psig Based on TESCO's field proven 44-1800 Series Regulator Eliminates downtime caused by depleted gas supplies 	3500, 6000 psig 241.3, 414 bar	5-500, 5-600, 10-700, 10-800, 10-900, 10-1,000 psig .35-35, .35-41.4, .69-48.3, .69-55.2, .69-62, .69-69 bar	$C_V = .06$	Brass or 316L SST
CS-2200 Series: Changeover System <ul style="list-style-type: none"> Eliminates downtime caused by depleted gas supplies Single body changeover regulator plus a point-of-use regulator Incorporates 44-2200 regulators 	3500 psig 241.3 bar	0-25, 0-50, 0-100, 0-150 psig 0-1.7, 0-3.5, 0-6.9, 0-10.3 bar	$C_V = .06$	Brass or 316L SST
NA-4 Series: Changeover System <ul style="list-style-type: none"> Includes changeover & line regulator, cylinder, vent & outlet shutoff valves High pressure line regulators up to 1500 psig Supports up to eight cylinders per side Optional remote mount annunciator 	3000 psig	30, 50, 100, 150, 200, 300, 500, 750, 1000, 1500 psig 2, 3.5, 6.9, 10.3, 13.8, 20.7, 35, 51.7, 69, 130.5 bar	$C_V = .06$	Brass or 316L SST
Auto Cascade System <ul style="list-style-type: none"> Automatic operation and priority fill 10,000 psig / 690 bar maximum operating pressure 				<ul style="list-style-type: none"> Simultaneously charge and dispense Cartridge servicing for easy maintenance

Integrated Custom Systems

Integrated custom systems simplify your pressure, flow & measurement applications. We provide standard designs and custom solutions from the component level and up – capabilities not found with other system integrators. From idea to implementation, whether simple or complex, TESCO has the expertise to deliver the final product that meets or exceeds your expectations.

Standard Configurable Panels/Manifold Blocks



Closed Loop Electronic Control



Custom Manifold Blocks/Panels



Automated Test Stands



ENTRY

LEVEL OF INTEGRATION

ADVANCED

Electronic Pressure Controls



ER5000 Digital Pressure Controller



ER5K Kit
Panel Assembly
Pressure Reducing



ER5040 Series



ER5000 / 26-2000 Series



ER5100 Series
High Flow Control

ER5000 Series Digital Pressure Controller

- Precise accuracy: $\pm 1\%$ FSO!
- Features controlled outlet pressure from 0-100 psig / 0-6.9 bar as a stand alone unit
- Compatible pressure regulators available offering vacuum to 20,000 psig / 1379 bar control
- Selectable setpoint signal source:
 - External analog, digital USB or RS485, downloadable profile
- Selectable feedback signal source:
 - Internal 0-100 psig / 0-6.9 bar sensor or external analog
- NEMA 4X enclosure
- CE, CSA, IECEx and ATEX approved
- Two enhanced versions, ER5000FI and FV, offer additional analog/digital inputs and conditional control profile segments, IF and GOTO, allowing the user even more sophisticated control. These models also include analog sensor output and "Suspend Control" mode which suspends the control algorithm and locks outlet pressure to ensure total stability.
- Free tuning and interface software provided
- RS485 converters and power supplies also available
- Stainless steel option

ER5K Kits

ER5000 Pressure Reducing and Backpressure kits are engineered to provide all the equipment needed to get your pressure control system up and running with minimum effort on your part.

- No guesswork - everything you need is pre-assembled onto a panel or mounted within an enclosure
- Saves time, money and headaches
- Tuned and tested before delivery

Kits include:

- ER5000FI-1
- Pressure reducing or backpressure regulator
- 4-20 mA feedback transducer
- ER supply regulator (optional)
- All connections and fittings
- ER junction box (optional)
- Documentation package

ER5040 Series

- Features of the ER5000 with OEM base, no cover
- Not available in Explosion-Proof

ER5000 / 26-2000 Series - High Accuracy, High Pressure Control

- Designed for applications where high accuracy and reliability are critical
- Choice of outlet pressure ranges to 20,000 psig / 1379 bar
- Excellent for calibration systems

ER5020 Series - High Pressure, Low Flow Integrated Systems

- Integrates with 26-1000 Dual Piston Regulator to achieve 10-9000 psig / 0.69-620 bar in 395 milliseconds
- Choice of outlet pressure ranges to 10,000 psig / 690 bar
- Gas or liquid applications
- Segregated venting
- Flow capacity: $C_v = 0.06$
- Other integrated regulators available

ER5100 Series - High Flow Control

- Integrates with 44-4000 venting regulator
- Choice of 500 or 900 psig / 35 or 62 bar outlet ranges
- Flow capacity: $C_v = 0.7$ or 2.0
- Available in brass or stainless steel

Electronic Pressure Controls



ER5110 Compact
Integrated Unit



269-529 Low Pressure/
High Flow Regulator



70-2000 Motorized
Actuator

ER5110 Series - Compact Integrated Unit

- Integrates with 44-5200 regulator, standard options available
- Features identical to the ER5000 (shown on page 11)
- Choice of outlet pressure ranges to 500 psig / 35 bar
- Reference pressure: 100 psig / 6.9 bar
- Flow capacity: $C_v = 0.06$ or 0.15
- Venting or non-venting

269-529 Series - Low Pressure/High Flow Pressure Regulator

- Maximum inlet pressure: 300 psig / 20 bar
- Controlled outlet pressure to 100 psig / 6.9 bar, some models up to 300 psig / 20 bar
- Ports from 1/4" to 2-1/2"
- Flow capacity: C_v values up to 45
- Exceptional low pressure control throughout flow range

70-2000 Series Motorized Actuator

- 24 VDC motorized actuator provides remote adjustment of regulator setpoint
- Adaptable to 26-1000, 26-1600, 26-1700, 26-2300, 54-2000 and 54-2100 Series Regulators
- Variable speed control with adjustable limit stops to prevent over-travel

Pressure Transducers

- Ideal for use in ER5000 applications where an external feedback is required
- Provides extremely stable and repeatable hydraulic and pneumatic pressure measurements
- .1%, 0.25% and 0.5% accuracy available
- Choice of 4-20 mA, 0-10 VDC versions
- Wide choice of pressure ranges (including sub-atmospheric)

Accessories



Gauges



Mini In-Line Filters
98 Series

Product Series/Features	Operating Pressure (maximum)	Body Material
Pressure Gauges (2" & 2.5" dia.) <ul style="list-style-type: none"> • Brass or Stainless Steel construction • Pressure ranges from sub-atmospheric to 10,000 psig / 690 bar • 1/4" connections 	sub-atmospheric to 10,000 psig / 690 bar	Brass or 316 SST
Filters - High Pressure (10 micron) <ul style="list-style-type: none"> • 98-1010 Series Mini In-Line filter: <ul style="list-style-type: none"> • For systems with size limitations • 98-1110 Series T-Type Filter: <ul style="list-style-type: none"> • Designed for high flow applications • Features cleanable element • Available options: electrical, visual, bypass valve, visual pressure differential indicator, bypass relief valve, electrical bypass • 98-1210 Series In-Line Filter: <ul style="list-style-type: none"> • For systems with size limitations • Cleanable element 	6,000 psig 414 bar 6,000, 10,000 psig 414, 690 bar 3,000, 6,000, 10,000 psig 207, 414, 690 bar	304 SST 300 SST 300 and 17-4 SST

TESCOM Manufacturing & Distributor Network...

a worldwide presence!



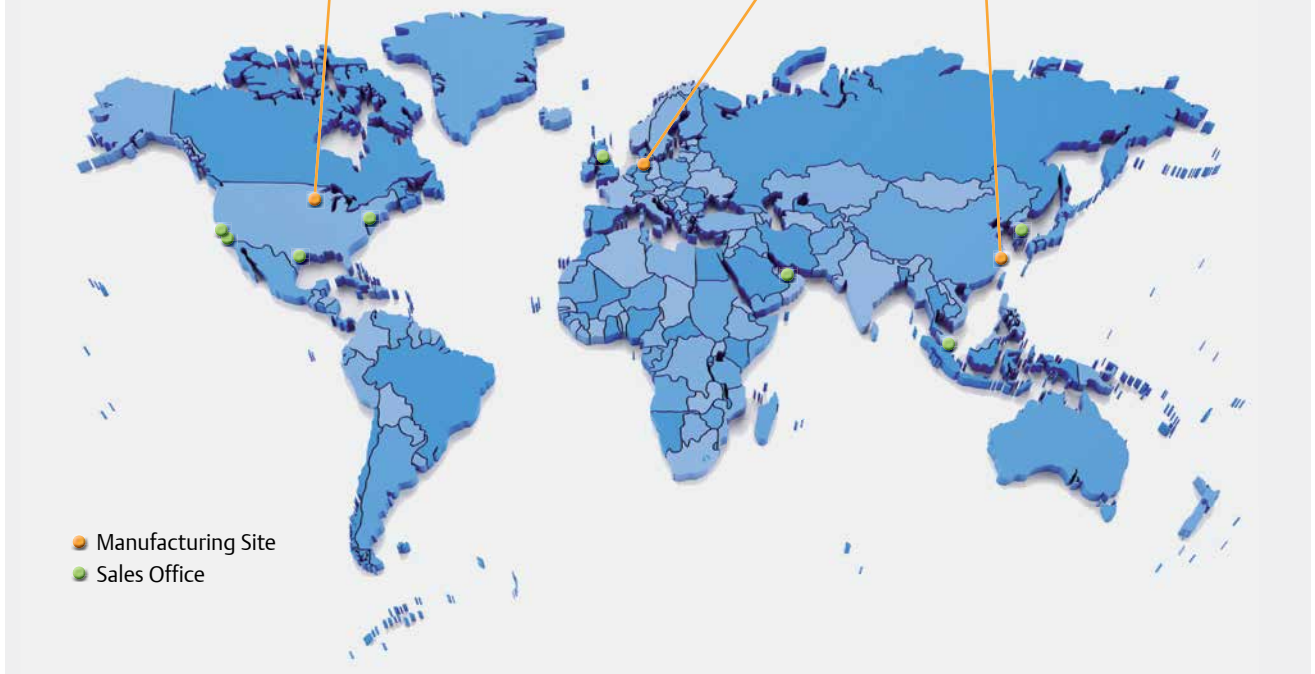
NORTH AMERICA
Elk River, Minnesota USA



EUROPE
Selmsdorf, Germany



ASIA PACIFIC
Pudong Shanghai, China



TESCOM™ designs and manufactures a wide range of standard and custom engineered pressure control solutions for a diverse world market. Whether your needs are components like regulators and valves or pressure systems and assemblies, TESCO provides expert application and customer support from simple industrial applications to high tech complex projects. Market application know-how includes Aerospace & Defense, Alternative Fuels, Diving & Life Support, Laboratory & Research, Life Sciences, Medical, Oil & Gas and Microelectronics to name just a few.

TESCOM distributor support centers are located in most major cities worldwide providing application assistance and quality TESCO product.

TESCOM sales offices are located in the USA, United Kingdom, Germany, Singapore, South Korea and United Arab Emirates.

For a distributor or sales office location near you, visit www.tescom.com and click on the **Sales and Support Contacts** link.

**We are your worldwide partner
in precision pressure control.**



Ultra-high purity pressure controls are available. These products are designed for semiconductor, flat panel displays, photovoltaic and other microelectronic applications.

The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

An ISO 9001 Quality System Certified Company
経済産業大臣認定試験者
METI Certified Self-Inspecting Manufacturer
MAB 491-N

**Emerson Process Management
Regulator Technologies, Inc.**

Americas

TESCOM

12616 Industrial Boulevard
Elk River, Minnesota 55330-2445 USA
T: +1 800 447 1250
T: +1 763 241 3238
F: +1 763 241 3224
E: na.tescom@emerson.com

Continental Europe

TESCOM

An der Trave 23-25
23923 Selmsdorf, Germany
T: +49 38823 31 287
F: +49 38823 31 140
E: eu.tescom@emerson.com

Asia-Pacific

TESCOM

3/F, Building #2
No. 1277, Xin Jin Qiao Road
Jinqiao E.P.Z
Pudong Shanghai, 201206 China
T: +86 21 2892 9000
F: +86 21 2892 9001
E: ap.tescom@emerson.com

Middle East and Africa

Emerson FZE

P.O. Box 17033
Jebel Ali Free Zone-South (Zone 2)
Dubai, United Arab Emirates
T: +971 4 811 8443
F: +971 4 811 8987
E: mea.tescom@emerson.com

For further information visit www.tescom.com

DBROC1753X012 © 2016 Emerson Process Management Regulator Technologies, Inc. All rights reserved. Printed in the U.S.A. 1/16.
Tescom, Emerson Process Management, and the Emerson Process Management design are marks of one of the Emerson Process Management group of companies. All other marks are the property of their respective owners.

TESCOM™


EMERSON™
Process Management